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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/811,371 | 03/26/2004 | Thomas Aisenbrey | INT-03-009 | 2080 |

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| EXAMINER |
|---|
| MAYO III, WILLIAM H |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2831 | |

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/811,371 | AISENBREY, THOMAS | |
| | Examiner | Art Unit | |
| | William H. Mayo III | 2831 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-45 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5/26/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Denoted Drawings of Pat Num 5,889,117.

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(e). The provisional applications being filed April 10, 2003, as Application No. 60/461,877 and June 16, 2003, as Application No. 60/478,774.

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

3. If applicant desires benefit of a previously filed application under 35 U.S.C. 120, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence(s) of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. " should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the

application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

4. The applicant should state the Application Numbers 10/309,429 and 10/075,778, are pending, patented, or abandoned.

***Information Disclosure Statement***

5. The information disclosure statement filed June 26, 2004 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

***Specification***

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The abstract of the disclosure is objected to because in line 3, the abstract states the term “comprises”, which is improper language for the abstract. The applicant should replace the term with the term –has--.

8. The abstract also exceeds the word length of 150. The applicant should delete some of the lines of the abstract to provide the abstract with the proper length.

9. The abstract also recites the term “or the like”, which is improper language for the abstract because it is unclear what materials are incorporated in the claimed invention.

The applicant should delete the terms to provide the abstract with clear and concise language. Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

10. Claim 79 is objected to because of the following informalities: In claim 79, line 2, replace the terms "after to", with the terms –after the--. In claim 79, line 4, replace the term "insulting", with the term –insulating--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-5, 13, 16-20, 22-24, 31-33, 35-37, and 40-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Derby (Pat Num 3,576,387). Derby discloses shielded cable device (Figs 1-3) comprising an electromagnetic energy absorbing heat shrinkable article (Col 1, lines 6-11, Figs 1-3) that overcomes the disadvantages of the prior art articles such as discontinuities, flaking, and cracking thereby resulting in poor shielding characteristics (Col 2, lines 1-9). Specifically, with respect to claim 1, Derby discloses shielded cable device (Figs 1-2) comprising a conductor (14) and conductive shield (13) surrounding the conductor (14) wherein the shield (13) comprising

conductive loaded resin-based material (11) comprising conductive materials in a base resin host (Col 6, lines 25-29). With respect to claim 2, Derby discloses that ratio by weight of the conductive materials to the resin host is between 0.20-0.40 (i.e. 25-28% of conductive materials to 72-75% of base material is 0.20-0.38, Col 4, lines 11-14). With respect to claim 3, Derby discloses that the conductive materials may be a metal powder (Col 5, lines 28-32). With respect to claim 4, Derby discloses that the metal powder may be nickel, copper, and silver (Col 5, lines 36-40). With respect to claim 5, Derby discloses that the metal powder may comprise a diameter of between 3-12μm (i.e. 0.1-10 μm, Col 4, lines 16-21). With respect to claim 13, Derby discloses that the conductor (14) comprises a wire that is surrounded by an insulating layer (15, Fig 1). With respect to claim 16, Derby discloses that an insulating jacket (12) surrounding the conductor shield (13, Fig 2). With respect to claim 17, Derby discloses that the insulating outer jacket (12) comprises a resin-based material (Col 2, lines 50-55). With respect to claim 18, Derby discloses that the resin host of the conductive shield (13) may be the same material composition as the resin based material of the insulating jacket (12, i.e. polyester). With respect to claim 19, Derby discloses that the conductor (20) may comprise an additional conductor (three wires), wherein all of the conductors are insulated (Fig 3). With respect to claim 20, Derby discloses that the conductors (20) making up the core wire (Fig 3) are twisted together to form a twisted pair of wires (Fig 3). With respect to claim 22, Derby discloses shielded cable device (Figs 1-2) comprising a conductor (14) being surrounded by an insulating layer (15), a conductive shield (13) surrounding the conductor (14) wherein the shield (13) comprising

conductive loaded resin based material (11) comprising conductive materials in a base resin host (Col 6, lines 25-29), and an insulating jacket (12) surrounding the conductor shield (13, Fig 2). With respect to claim 23, Derby discloses that ratio by weight of the conductive materials to the resin host is between 0.20-0.40 (i.e. 25-28% of conductive materials to 72-75% of base material is 0.20-0.38, Col 4, lines 11-14). With respect to claim 24, Derby discloses that the conductive materials may be a metal powder (Col 5, lines 28-32). With respect to claim 31, Derby discloses that the insulating outer jacket (12) comprises a resin-based material (Col 2, lines 50-55). With respect to claim 32, Derby discloses that the conductor (20) may comprise an additional conductor (three wires), wherein all of the conductors are insulated (Fig 3). With respect to claim 33, Derby discloses that the conductors (20) making up the core wire (Fig 3) are twisted together to form a twisted pair of wires (Fig 3). With respect to claim 35, Derby discloses a method comprising providing a conductor (14) and forming a conductive shield (13) surrounding the conductor (14) wherein the shield (13) comprising conductive loaded resin-based material (11) comprising conductive materials in a base resin host (Col 6, lines 25-29). With respect to claim 36, Derby discloses a method wherein the ratio by weight of the conductive materials to the resin host is between 0.20-0.40 (i.e. 25-28% of conductive materials to 72-75% of base material is 0.20-0.38, Col 4, lines 11-14). With respect to claim 37, Derby discloses a method wherein the conductive materials may be a metal powder (Col 5, lines 28-32). With respect to claim 40, Derby discloses a method wherein the step of forming the conductive shield (13) comprises pulling the conductor (14), extruding the conductive loaded resin onto the

pulled conductor (14) to thereby form the conductive shield (13), and curing the conductive loaded resin based material (Col 3, lines 45-50, during extrusion process conductor is pulled from a reel and water tanks are utilized to cool the extruded jackets). With respect to claim 41, Derby discloses that the insulating jacket (12) may be formed by extrusion (Col 3, lines 45-50). With respect to claim 42, Derby discloses that the step of forming a conductive shield (13) may comprise the step of pulling the conductor (14) and wrapping the conductive loaded resin onto the pulled conductor (14) to thereby form the conductive shield (13), wherein the conductive loaded resin is previously formed into a fabric (Col 3, lines 30-35). With respect to claim 43, Derby discloses that the insulating outer jacket (12) may be extruded on the conductive shield (13, Col 3, lines 45-51).

13. Claims 1, 13-15, 22, 29-30, 35, and 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Flenniken (Pat Num 5,889,117). Flenniken discloses a cable (Fig 1) comprising a composition material that may be utilized as a shielding material having improved performance characteristics (Col 2, lines 24-32). Specifically, with respect to claim 1, Flenniken discloses shielded cable device (Fig 1) comprising a conductor (denoted as 1) and conductive shield (denoted as 4) surrounding the conductor (1) wherein the shield (4) comprising conductive loaded resin based material comprising conductive materials in a base resin host (i.e. carbon black filled ethylene/octane, Col 2, lines 48-53). With respect to claim 13, Flenniken discloses that the conductor (1) comprises a wire with a surrounding insulating layer (denoted as 3). With respect to claim 14, Flenniken discloses that the cable (Fig 1) further comprises a

metal layer (denoted as 5) overlying a part of the conductive shield (4). With respect to claim 15, Flenniken discloses that a grounding conductor (denoted as 6) may be embedded in the conductive shield (4, Fig 1). With respect to claim 22, Flenniken discloses shielded cable device (Fig 1) comprising a conductor (denoted as 1) and conductive shield (denoted as 4) surrounding the conductor (1) wherein the shield (4) comprising conductive loaded resin based material comprising conductive materials in a base resin host (i.e. carbon black filled ethylene/octane, Col 2, lines 48-53), wherein an insulating outer jacket (denoted as 7) surrounds the conductive shield (6). With respect to claim 29, Flenniken discloses that the cable (Fig 1) further comprises a metal layer (denoted as 5) overlying a part of the conductive shield (4). With respect to claim 30, Flenniken discloses that a grounding conductor (denoted as 6) may be embedded in the conductive shield (4, Fig 1). With respect to claim 35, Flenniken discloses a method comprising providing a conductor (denoted as 1) and forming a conductive shield (denoted as 4) surrounding the conductor (1) wherein the shield (4) comprises a conductive loaded resin based material comprising conductive materials in a base resin host (i.e. carbon black filled ethylene/octane, Col 2, lines 48-53). With respect to claim 44, Flenniken discloses a method further comprising forming a metal layer (denoted as 5) overlying a part of the conductive shield (4). With respect to claim 45, Flenniken discloses a method wherein the step of forming a metal layer (5) around the based material is by coating the metal layer onto the conductive shield (4, Fig 1).

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claims 21 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derby (Pat Num 3,576,387). Derby discloses shielded cable device (Figs 1-3) comprising an electromagnetic energy absorbing heat shrinkable article (Col 1, lines 6-11, Figs 1-3) that overcomes the disadvantages of the prior art articles such as discontinuities, flaking, and cracking thereby resulting in poor shielding characteristics (Col 2, lines 1-9) as disclosed above with respect to claims 1, 13, 18-20, 22, and 32-33 above.

However, Derby doesn't specifically disclose the conductor comprising two or more additional twisted conductor pairs (claims 21 & 34).

With respect to claims 21 & 34, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the

insulated twisted wires of Derby to comprise additional twisted wires because cables having a plurality of twisted pairs are known in the art for providing additional expansion of electricity or sound and since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. (*St. Regis Paper Co v. Bemis Co., 193 USPQ 8).*

17. Claims 6-12, 25-28, and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derby (Pat Num 3,576,387) in view of Fenton (Pub Num 2002/0037376). Derby discloses an electromagnetic energy absorbing heat shrinkable article (Col 1, lines 6-11, Figs 1-3) that overcomes the disadvantages of the prior art articles such as discontinuities, flaking, and cracking thereby resulting in poor shielding characteristics (Col 2, lines 1-9), as detailed above with respect to claims 1 and 22.

However, Derby doesn't necessarily disclose the conductive material being a non metal powder (claims 6 and 25), nor the non metal powder being carbon, graphite, or an amine based material (claim 7), nor the conductive materials being a combination of metal powder and non-metal powder (claims 8 and 26), nor the conductive materials comprising micron conductive fiber (claims 9, 27, and 38), nor the micron conductive fiber being nickel plated carbon fiber, or stainless steel fiber, or copper fiber, or silver fiber or combinations thereof (claim 10), nor the micron fiber having a diameter between about 3-12 μm and a length of between about 2 mm and about 14 mm (claim 11), nor the conductive material being a combination of conductive powder and conductive fiber (claims 12, 28, and 39).

Fenton teaches a heat shrinkable composition comprising an insulating polymer matrix, which is low in cost and provides a superior shield against EMI and RFI (paragraph 2 & 4). Specifically, with respect to claims 6 and 25, Fenton teaches a heat shrinkable composition comprising a plurality of metal plated fibers in an insulating matrix, wherein the conductive material (i.e. conductive fibers) may be a non metal powder (i.e. carbon, glass, or polymer, paragraph 10). With respect to claim 7, Fenton teaches that the non-metal powder may be carbon or graphite (paragraph 14). With respect to claims 8 and 26, Fenton teaches that the conductive materials may be a combination of metal powder and non-metal powder (paragraph 14). With respect to claims 9, 27, and 38, Fenton teaches that the conductive materials may comprise micron conductive fiber (Paragraph 12). With respect to claim 10, Fenton discloses that the micron conductive fiber may be of the type disclosed in Patent Number 4,680,093, which discloses that the coating materials may be carbon fibers covered with nickel, copper, silver, or combinations thereof (Col 3, lines 25-50 in Pat Num 4,680,093, which Fenton states is incorporated herein, see paragraph 10 of Fenton). With respect to claim 11, Fenton discloses that the micron conductive fiber may be of the type disclosed in Patent Number 4,680,093, wherein the micron fiber has a diameter between about 3-12 μm (5-10 μm, see Col 4, lines 34-35 in Pat Num 4,680,093, which Fenton states is incorporated herein, see paragraph 10 of Fenton) and a length of between about 2 mm and about 14 mm (Paragraph 12 of Fenton). With respect to claims 12, 28, and 39, Fenton discloses that the micron conductive fiber may be stainless steel (as taught by Pat Num 4,680,093, i.e. carbon steel, Col 3, lines 49-50, which Fenton states is

incorporated in paragraph 12). With respect to claims 19, 47, & 68, Fenton discloses that the conductive material may be a combination of conductive powder and conductive fiber (paragraph 14).

With respect to claims 6-12, 25-28, and 38-39, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductive material of Derby to comprise the fiber configuration as taught by Fenton because Fenton teaches that such a configuration provides a heat shrinkable composition comprising an insulating polymer matrix, which is low in cost and provides a superior shield against EMI and RFI (paragraph 2 & 4) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc. (CA 8, 1982) 215 USPQ 835.*

***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Morin (Pat Num 4,680,093), Kritchevsky et al (Pat Num 4,678,699), Tsai (Pat Num 4,598,165), Rinde et al (Pat Num 5,470,622), Nyberg (Pat Num 4,207,364), Prysner (Pat Num 6,225,565), Vogdes et al (Pat Num 5,110,638), Tamplin et al (Pat Num 4,576,993), Steele et al (Pat Num 5,302,428), Gregory et al (Pat Num 5,098,753), Pithouse et al (Pat Num 4,803,103), Chiotis et al (Pat Num 4,735,833), and Hane et al (Pat Num 4,559,973), all of which disclose heat shrinkable tubes.

***Communication***

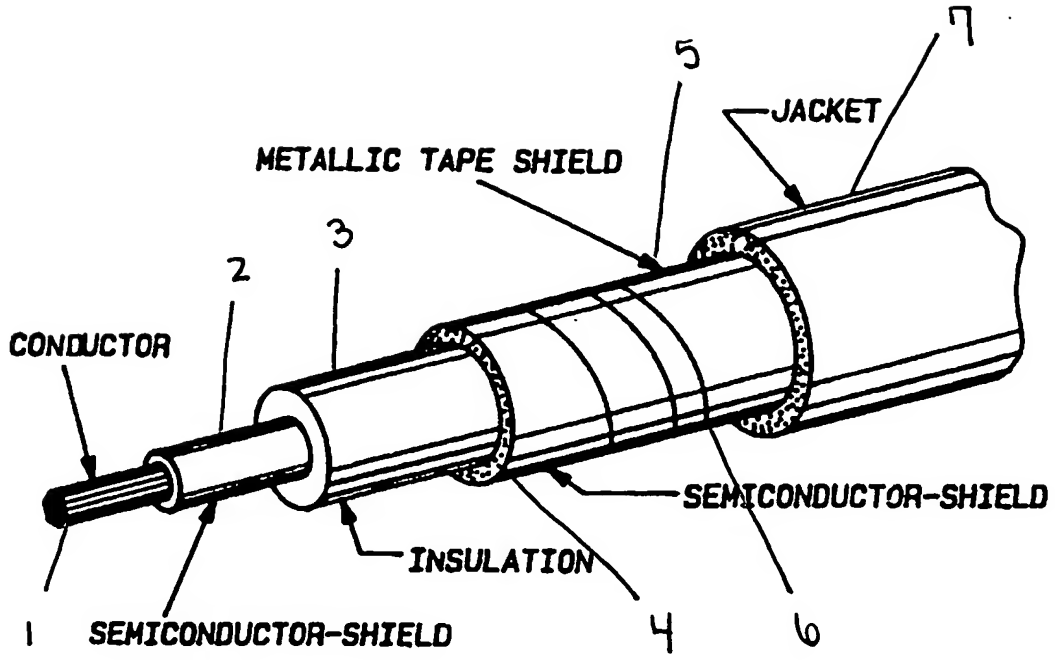
19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
August 16, 2006


7
5
JACKET
METALLIC TAPE SHIELD
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CONDUCTOR
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Fig. 1